

Keystone Assessment Anchors: Module 1

ASSESSMENT ANCHOR: A1.1.1 Operations with Real Numbers and Expressions

A1.1.1.1 Represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, and exponents).

A1.1.1.1.1 Compare and/or order any real numbers. Note: Rational and irrational may be mixed.

A1.1.1.1.2 Simplify square roots (e.g., $\sqrt{24} = 2\sqrt{6}$).

A1.1.1.2 Apply number theory concepts to show relationships between real numbers in problem-solving settings.

A1.1.1.2.1 Find the Greatest Common Factor (GCF) and/or the Least Common Multiple (LCM) for sets of monomials.

A1.1.1.3 Use exponents, roots, and/or absolute values to solve problems.

A1.1.1.3.1 Simplify/evaluate expressions involving properties/laws of exponents, roots, and/or absolute values to solve problems. Note: Exponents should be integers from -10 to 10 .

A1.1.1.4 Use estimation strategies in problem solving situations.

A1.1.1.4.1 Use estimation to solve problems.

A1.1.1.5 Simplify expressions involving polynomials.

A1.1.1.5.1 Add, subtract, and/or multiply polynomial expressions (express answers in simplest form). Note: Nothing larger than a binomial multiplied by a trinomial.

A1.1.1.5.2 Factor algebraic expressions, including difference of squares and trinomials. Note: Trinomials are limited to the form $ax^2 + bx + c$ where a is equal to 1 after factoring out all monomial factors.

A1.1.1.5.3 Simplify/reduce a rational algebraic expression.

ASSESSMENT ANCHOR: A1.1.2 Linear Equations

A1.1.2.1 Write, solve, and/or graph linear equations using various methods.

A1.1.2.1.1 Write, solve, and/or apply a linear equation (including problem situations).

A1.1.2.1.2 Use and/or identify an algebraic property to justify any step in an equation-solving Process. Note: Linear equations only.

A1.1.2.1.3 Interpret solutions to problems in the context of the problem situation. Note: Linear equations only.

A1.1.2.2 Write, solve, and/or graph systems of linear equations using various methods.

A1.1.2.2.1 Write and/or solve a system of linear equations (including problem situations) using graphing, substitution, and/or elimination. Note: Limit systems to two linear equations.

A1.1.2.2.2 Interpret solutions to problems in the context of the problem situation. Note: Limit systems to two linear equations.

ASSESSMENT ANCHOR: A1.1.3 Linear Inequalities

A1.1.3.1 Write, solve, and/or graph linear inequalities using various methods.

A1.1.3.1.1 Write or solve compound inequalities and/or graph their solution sets on a number line (may include absolute value inequalities).

A1.1.3.1.2 Identify or graph the solution set to a linear inequality on a number line.

A1.1.3.1.3 Interpret solutions to problems in the context of the problem situation. Note: Linear inequalities only.

A1.1.3.2 Write, solve, and/or graph systems of linear inequalities using various methods.

A1.1.3.2.1 Write and/or solve a system of linear inequalities using graphing. Note: Limit systems to two linear inequalities.

A1.1.3.2.2 Interpret solutions to problems in the context of the problem situation. Note: Limit systems to two linear inequalities.

Keystone Assessment Anchors: Module 2

ASSESSMENT ANCHOR: A1.2.1 Functions

A1.2.1.1 Analyze and/or use patterns or relations.

A1.2.1.1.1 Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.

A1.2.1.1.2 Determine whether a relation is a function, given a set of points or a graph.

A1.2.1.1.3 Identify the domain or range of a relation (may be presented as ordered pairs, a graph, or a table).

A1.2.1.2 Interpret and/or use linear functions and their equations, graphs, or tables.

A1.2.1.2.1 Create, interpret, and/or use the equation, graph, or table of a linear function.

A1.2.1.2.2 Translate from one representation of a linear function to another (i.e., graph, table, and equation).

ASSESSMENT ANCHOR: A1.2.2 Coordinate Geometry

A1.2.2.1 Describe, compute, and/or use the rate of change (slope) of a line.

A1.2.2.1.1 Identify, describe, and/or use constant rates of change.

A1.2.2.1.2 Apply the concept of linear rate of change (slope) to solve problems.

A1.2.2.1.3 Write or identify a linear equation when given

- the graph of the line,
- two points on the line, or
- the slope and a point on the line.

Note: Linear equation may be in pointslope, standard, and/or slope-intercept form.

A1.2.2.1.4 Determine the slope and/or y -intercept represented by a linear equation or graph.

A1.2.2.2 Analyze and/or interpret data on a scatter plot.

A1.2.2.2.1 Draw, identify, find, and/or write an equation for a line of best fit for a scatter plot.

ASSESSMENT ANCHOR: A1.2.3 Data Analysis

A1.2.3.1 Use measures of dispersion to describe a set of data.

A1.2.3.1.1 Calculate and/or interpret the range, quartiles, and interquartile range of data.

A1.2.3.2 Use data displays in problem-solving settings and/or to make predictions.

A1.2.3.2.1 Estimate or calculate to make predictions based on a circle, line, bar graph, measure of central tendency, or other representation.

A1.2.3.2.2 Analyze data, make predictions, and/or answer questions based on displayed data (box-and-whisker plots, stem-and-leaf plots, scatter plots, measures of central tendency, or other representations).

A1.2.3.2.3 Make predictions using the equations or graphs of best-fit lines of scatter plots.

A1.2.3.3 Apply probability to practical situations.

A1.2.3.3.1 Find probabilities for compound events (e.g., find probability of red and blue, find probability of red or blue) and represent as a fraction, decimal, or percent.